

WHAT IS CLAIMED IS:

- 1                   1.       A method for creating an analytical report using a multidimensional  
2 data model and a database, wherein a computer system accesses the database to provide  
3 returned values responsive to queries specified in a predefined query language, wherein the  
4 multidimensional data model includes a plurality of dimensions organizing data as sets of  
5 values organized in a multidimensional cube structure, wherein the method includes a user  
6 interface executing on a computer system operated by a human user, wherein the computer  
7 system executing the user interface includes a processor coupled to a memory, wherein the  
8 processor is further coupled to the user interface, data model, and the database, the method  
9 comprising:  
10                   presenting to the user a plurality of selections associated with reporting  
11 objects;  
12                   accepting a user input to select at least one reporting object;  
13                   parsing the selected reporting objects into layout information and data  
14 definition information;  
15                   using the data definition information to deduce a set of data;  
16                   creating one or more queries based upon the deduced set of data; and  
17                   querying a data source to retrieve data associated with the deduced set of data.
- 1                   2.       The method of claim 1, further comprising :  
2                   providing the retrieved data to the user to generate the report according to the  
3 user's selected reporting objects; and  
4                   using the layout information to present the retrieved data in a report format  
5 associated with the layout information.
- 1                   3.       The method of claim 1, wherein accepting user inputs is by dragging  
2 and dropping graphical representation of the reporting object in a position relative to one or  
3 more other graphically represented reporting objects, where the position to the other  
4 graphically represented reporting objects determines that layout information and the data  
5 definition information.
- 1                   4.       The method of claim 1, wherein accepting user inputs is by entering  
2 instructions into a text editor.

1                   5.       The method of claim 1, wherein accepting user inputs further  
2 comprises generating a report specification, wherein the report specification includes a set of  
3 computer program instructions.

1                   6.       The method of claim 5, wherein the set of computer program  
2 instructions include XML tags.

1                   7.       The method of claim 1, wherein parsing the accepted reporting objects  
2 further comprises building a data source query from the data definition information.

1                   8.       The method of claim 1, wherein using the data definition information  
2 to deduce the set of data further comprises deducing a physical cube structure, wherein the  
3 physical cube structure includes the set of data.

1                   9.       The method of claim 1, wherein creating the query based upon the  
2 deduced cube structure includes using RDBMS query techniques.

1                   10.      The method of claim 1, wherein creating the query based upon the  
2 deduced cube structure includes using OLAP query techniques.

1                   11.      A system for creating an analytical report using a multidimensional  
2 data model to access a database, wherein the multidimensional data model includes a  
3 plurality of dimensions organizing data as sets of values organized in a multidimensional  
4 cube structure, the system comprising:  
5                   a reporting engine configured to receive a report specification from a client  
6 computing device;  
7                   a cube configured to receive a data source query from the report engine, where  
8 the cube is configured to generate one or more queries; and  
9                   a data source configured to receive the one or more queries,  
10                  wherein the cube generates the query automatically based upon the data source  
11 query.

1                   12.      The system of claim 11, wherein the cube further comprises:  
2                   a query facility to builds one or more logical cubes;  
3                   a generic data source coupled to the query facility to build a physical cube to  
4 provide an optimize query in data source-neutral terms; and

5 a specific data source coupled to the generic data source and configured to  
6 execute the query as a data source-specific query.

1 13. A computer product of the type comprising a computer readable  
2 medium that contains a program to create an analytical report on top of a multidimensional  
3 data model built on top of a relational or multidimensional database, wherein the database  
4 operates in a computer system and provides returned values responsive to queries specified in  
5 a predefined query language, wherein the multidimensional data model includes a plurality  
6 dimensions organizing data as sets of values organized in a multidimensional cube structure,  
7 wherein the computer readable medium controls a user interface executing on a computer  
8 system operated by a human user, wherein the computer system executing the user interface  
9 includes a processor coupled to a memory, wherein the processor is further coupled to the  
10 user interface, data model, and the database, the computer product comprising:

11 computer code to present to the user a plurality of selections, where each of  
12 the plurality of selections is associated with a reporting object;

13 computer code to accepting user inputs, where the inputs include a subset of  
14 the plurality of selections;

15 computer code to generate a report specification computer program, where the  
16 report specification includes layout information and data definition information; and

17 computer code to initiate a method of generating an automatic query  
18 comprising:

19 parsing the report specification into layout information and data  
20 definition information;

21 using the data definition information to deduce a set of data;

22 creating one or more queries based upon the deduced set of data; and

23 querying a data source to retrieve data associated with the deduced set  
24 of data.

1 14. The computer product of claim 13, further comprising:

2 computer code to accept the retrieved data;

3 and

4 computer code to generate the report according to the layout information of  
5 the report specification to present the retrieved data in a report format associated with the  
6 layout information.

1                    15.     The computer product of claim 13, wherein the method of generating  
2     the automatic query occurs at a remote server, wherein the remote server provides the  
3     retrieved data to the computer system via a network.